TEST RESULTS OF GRADATION FOR GSB
(IS 2386:(Part 1) 1963 (RA2011)

Lab ID	:	CP-RW-2017-04-01-05 **Date: 03-04-2017**
Customer	:	Assistant Executive Engineer, Yelahanka Satellite Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Satellite Sub Division, BBMP, Bangalore.
Project Name	:	Asphalting to Roads and improvements to drains in Escorts Eng. Layout 1st main and cross roads of Attur ward no:03
Agency	:	Technical Manager(West), KRIDL, BBMP, Bangalore.
Customer Reference	:	BBMP/EE(YNK.D)/W.O/139/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	01-04-2017
Sample ID No	:	2017-04-01-05/01
Type of Mix	:	GSB (Granular Sub Base)
Date of test	:	01-04-2017
Oven Dry Weight(gm)	:	10600

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Spec. Limit Vide Table 400.1 MORTH Specification
75	0	0	0	100	100
53	384	384	3.62	96.4	80-100
26.5	2483	2867	27.05	73.0	55-90
9.5	1950	4817	45.44	54.6	35-65
4.75	1966	6783	63.99	36.0	25-55
2.36	1475	8258	77.91	22.1	20-40
0.425	1194	9452	89.17	10.8	10-25
0.075	970	10422	98.32	1.7	0-5

TESTS ON FILLER SCREEN MATERIALS

Sl no	Particulars	Test results	Spec.Limit Vide Table 400.2 MORTH Specification
1	Liquid Limit, %	21.10%	Maximum 25
2	Plasticity index, %	Non plastic	Maximum 6

Note:-
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Prepared By:
Harshitha

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TEST RESULTS OF GRADATION FOR WMM

Lab ID : CP-RW-2017-04-05-05 **Date: 08-04-2017**

Customer : Assistant Executive Engineer, Yelahanka Satellite Sub Division, BBMP, Bangalore.

Address : Yelahanka Satellite Sub Division, BBMP, Bangalore.

Project Name : Asphalting to Roads and improvements to drains in Escorts Eng. Layout 1st main and cross roads of Attur ward no:03

Agency : Technical Manager(West), KRIDL, BBMP, Bangalore.

Customer Reference : BBMP/EE(YNK.D)/W.O/139/2017-18

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 05-04-2017

Sample ID No : 2017-04-05-05/01

Type of Mix : WMM (Wet Mix Macadam)

Date of test : 05-04-2017

Oven Dry Weight(gm) : 10500

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0	100	100
45	276	276	2.63	97.4	95-100
22.4	2077	2353	22.41	77.6	60-80
11.2	2181	4534	43.18	56.8	40-60
4.75	1773	6307	60.07	39.9	25-40
2.36	2120	8427	80.26	19.7	15-30
0.6	639	9066	86.34	13.7	8-22
0.075	1272	10338	98.46	1.5	0-5

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TEST RESULTS OF GRADATION FOR WMM

Lab ID	:	**CP-RW-2017-04-05-05** **Date: 08-04-2017**
Customer	:	Assistant Executive Engineer, Yelahanka Satellite Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Satellite Sub Division, BBMP, Bangalore.
Project Name	:	Asphalting to Roads and improvements to drains in Escorts Eng. Layout 1st main and cross roads of Attur ward no:03
Agency	:	Technical Manager(West), KRIDL, BBMP, Bangalore.
Customer Reference	:	BBMP/EE(YNK.D)/W.O/139/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	05-04-2017
Sample ID No	:	2017-04-05-05/01
Type of Mix	:	WMM (Wet Mix Macadam)
Date of test	:	05-04-2017
Oven Dry Weight(gm)	:	11300

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0	100	100
45	301	301	2.66	97.3	95-100
22.4	2814	3115	27.57	72.4	60-80
11.2	2316	5431	48.06	51.9	40-60
4.75	2761	8192	72.50	27.5	25-40
2.36	968	9160	81.06	18.9	15-30
0.6	765	9925	87.83	12.2	8-22
0.075	1192	11117	98.38	1.6	0-5

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TEST RESULTS OF GRADATION FOR WMM

Lab ID	:	**CP-RW-2017-04-05-05** **Date: 08-04-2017**
Customer	:	Assistant Executive Engineer, Yelahanka Satellite Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Satellite Sub Division, BBMP, Bangalore.
Project Name	:	Asphalting to Roads and improvements to drains in Escorts Eng. Layout 1st main and cross roads of Attur ward no:03
Agency	:	Technical Manager(West), KRIDL, BBMP, Bangalore.
Customer Reference	:	BBMP/EE(YNK.D)/W.O/139/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	05-04-2017
Sample ID No	:	2017-04-05-05/01
Type of Mix	:	WMM (Wet Mix Macadam)
Date of test	:	05-0-2017
Oven Dry Weight(gm)	:	10300

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0	100	100
45	301	301	2.92	97.1	95-100
22.4	2514	2815	27.33	72.7	60-80
11.2	2316	5131	49.82	50.2	40-60
4.75	2161	7292	70.80	29.2	25-40
2.36	968	8260	80.19	19.8	15-30
0.6	765	9025	87.62	12.4	8-22
0.075	1092	10117	98.22	1.8	0-5

Note:-

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TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Lab ID	:	CP-RW-2017-04-05-05 **Date: 08-04-2017**
Customer	:	Assistant Executive Engineer, Yelahanka Satellite Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Satellite Sub Division, BBMP, Bangalore.
Project Name	:	Asphalting to Roads and improvements to drains in Escorts Eng. Layout 1st main and cross roads of Attur ward no:03
Agency	:	Technical Manager(West), KRIDL, BBMP, Bangalore.
Customer Reference	:	BBMP/EE(YNK.D)/W.O/139/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	05-04-2017
Sample ID No	:	2017-04-05-05/01
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)
Date of test	:	05-04-2017

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	302.1	302.4
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	58.9	62.2
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	242.7	239.5
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.5	0.7
5	Aggregate impact value	(B/A)*100	19.5	20.6
6	Aggregate impact value (Mean of two tests)	Pecentage	20.0	

Note:-
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DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2017-04-05-05** **Date: 08-04-2017**
Customer	:	Assistant Executive Engineer, Yelahanka Satellite Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Satellite Sub Division, BBMP, Bangalore.
Project Name	:	Asphalting to Roads and improvements to drains in Escorts Eng. Layout 1st main and cross roads of Attur ward no:03
Agency	:	Technical Manager(West), KRIDL, BBMP, Bangalore.
Customer Reference	:	BBMP/EE(YNK.D)/W.O/139/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	05-04-2017
Sample ID No	:	2017-04-05-05/01
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)
Date of test	:	05-04-2017

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	11.7%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	10.9%	
Combined Flakiness and Elongation Index for WMM	22.6%	

Note:-
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DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2017-04-05-05** **Date: 08-04-2017**
Customer	:	Assistant Executive Engineer, Yelahanka Satellite Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Satellite Sub Division, BBMP, Bangalore.
Project Name	:	Asphalting to Roads and improvements to drains in Escorts Eng. Layout 1st main and cross roads of Attur ward no:03
Agency	:	Technical Manager(West), KRIDL, BBMP, Bangalore.
Customer Reference	:	BBMP/EE(YNK.D)/W.O/139/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	05-04-2017
Sample ID No	:	2017-04-05-05/01
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)
Date of test	:	05-04-2017

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	12.2%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	9.2%	
Combined Flakiness and Elongation Index for WMM	21.4%	

Note:-
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TEST REPORT ON BITUMEN

Lab ID	:	CP-RW-2017-04-17-05 **Date: 21-04-17**
Customer	:	Assistant Executive Engineer, Yelahanka Satellite Sub Division, BBMP, Bangalore
Address	:	Yelahanka Satellite Sub Division, BBMP, Bangalore.
Project Name	:	Asphalting to Roads and improvements to drains in Escorts Eng. Layout 1st main and cross roads of Attur Ward No.03
Agency	:	Technical Manager(West), KRIDL, BBMP, Bangalore.
Customer's Reference	:	BBMP/EE(YNK.D)/W.O/139/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	17-04-17
Sample ID No	:	2017-04-17-05/01
Sample Type	:	Bitumen
Reference to BIS codes	:	IS: 1201-1220(1978) (Reaffirmed-2004),
Date of test	:	17-04-17

Test Results

Sl.no	Name of Test	Result	Requirements as per IS:73-2013
1	Penetration at 25°C , in 1/10th mm	66.2	60 to 70
2	Softening Point, °C	52.2	Min. 40°C
3	Ductility, cm	97.0	Min. 75cm
4	Flash point, °C	242.5	Min. 220°C
	Fire point, °C	291.5	

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SPECIFIC GRAVITY AND WATER ABSORPTION TEST
IS:2386 Part III

Lab ID	:	**CP-RW-2017-04-15-05** **Date: 19-04-17**
Customer	:	Assistant Executive Engineer, Yelahanka Satellite Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Satellite Sub Division, BBMP, Bangalore.
Agency	:	Technical Manager(West), KRIDL, BBMP, Bangalore.
Project Name	:	Asphalting to Roads and improvements to drains in Escorts Eng. Layout 1st main and cross roads of Attur Ward No.03
Customer Reference	:	BBMP/EE(YNK.D)/W.O/139/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	15-04-17
Sample ID No	:	2017-04-15-05/01
Type of Mix	:	Coarse Aggregate for DBM (Dense Bituminous Macadam)
Date of test	:	15-04-17

Sl.No	Details of Observations	Index	Unit	Test 1	Test 2	Mean Value
218	Weight of Wet aggregates + Basket suspended in water	A1	grams	2142	2260	
2	Weight of Empty Basket suspended in water	A2	grams	791	791	
3	Weight of Aggregates in water	A=A1-A2	grams	1351	1469	
4	Weight of Saturated Surface Dry aggregate	B	grams	2261	2403	
5	Weight of oven dried aggregate	C	grams	2250	2390	
6	Specific gravity	C/(B-A)		2.47	2.56	2.52
7	Apparent Specific gravity	C/(C-A)		2.50	2.60	2.55
8	Water absorption	100*(B-C) /C	Percent	0.49	0.54	0.52

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TESTS RESULTS ON AGGREGATE IMPACT VALUE
(IS:2386 Part IV)

Lab ID	:	**CP-RW-2017-04-15-05** **Date: 19-04-17**
Customer	:	Assistant Executive Engineer, Yelahanka Satellite Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Satellite Sub Division, BBMP, Bangalore.
Project Name	:	Asphalting to Roads and improvements to drains in Escorts Eng. Layout 1st main and cross roads of Attur Ward No.03
Agency	:	Technical Manager(West), KRIDL, BBMP, Bangalore.
Customer Reference	:	BBMP/EE(YNK.D)/W.O/139/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	15-04-17
Sample ID No	:	2017-04-15-05/01
Type of Mix	:	Coarse Aggregate for DBM(Dense Bituminous Macadam)
Date of test	:	15-04-17

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	340	340
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	68.2	71.6
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	271.2	267.5
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.6	0.9
5	Aggregate impct value	(B/A)*100	20.06	21.06
6	Aggregate impct value (Mean of two tests)		20.56	

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